

## INTERNATIONAL SEARCH REPORT

International Application No

PCT/EP2005/001223

## A. CLASSIFICATION OF SUBJECT MATTER

IPC 7 C10G47/16 C10G47/18 C10G47/20 B01J29/08 B01J29/12  
 B01J29/16 B01J29/14

According to International Patent Classification (IPC) or to both national classification and IPC

## B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 7 C10G B01J

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the International search (name of data base and, where practical, search terms used)

EPO-Internal

## C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	DE 23 12 999 A (MOBIL OIL CORP) 27 September 1973 (1973-09-27) page 11, paragraph 2; claims 1-14; examples 1-20 page 13, paragraph 1	1-46
X	DE 19 23 808 A (UNION OIL CO) 19 November 1970 (1970-11-19)  claims 1-5; examples 1,2	1-5, 9-14, 16-20, 33-38,40
X	US 4 199 328 A (COLE EDWARD L ET AL) 22 April 1980 (1980-04-22) examples 1-4	45,46



Further documents are listed in the continuation of box C.



Patent family members are listed in annex.

## \* Special categories of cited documents:

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Date of the actual completion of the international search

17 June 2005

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PCT/EP2005/001223

## C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	GB 980 502 A (UNION CARBIDE CORP) 13 January 1965 (1965-01-13) claims 1,5,9,14; example 11; table p	1-5
X	DE 36 16 611 A (LINDE AG) 19 November 1987 (1987-11-19)  claims 1,2; tables 1,3	1-5, 9, 10, 13, 14, 16, 25-30, 33-40
X	EP 0 101 177 A (MOBIL OIL CORP) 22 February 1984 (1984-02-22)  claims 1-9; example 1; tables 1,2	1-5, 9-14, 16, 19, 20, 25-32, 35-38, 40, 42
X	US 4 435 283 A (BUSS WALDEEN C ET AL) 6 March 1984 (1984-03-06)  column 4, paragraph 2; claim 19; examples 2,3	1-5, 9-14, 16-20, 25, 27, 28, 30, 33-40, 42
A	US 3 655 551 A (HASS ROBERT H ET AL) 11 April 1972 (1972-04-11) example 1	1, 27-32

## INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No

PCT/EP2005/001223

Patent document cited in search report		Publication date	Patent family member(s)	Publication date
DE 2312999	A	27-09-1973	DE 2312999 A1	27-09-1973
DE 1923808	A	19-11-1970	FR 2061828 A7	25-06-1971
			NL 6906472 A	27-10-1970
			DE 1923808 A1	19-11-1970
			GB 1222772 A	17-02-1971
			US 3458299 A	29-07-1969
US 4199328	A	22-04-1980	NONE	
GB 980502	A	13-01-1965	US 3130006 A	21-04-1964
			AT 257787 B	25-10-1967
			DE 1468748 A1	18-06-1970
			DE 1184743 B	07-01-1965
			FR 1286689 A	09-03-1962
			IT 642040 A	
			NL 259552 A ,C	
DE 3616611	A	19-11-1987	DE 3616611 A1	19-11-1987
EP 0101177	A	22-02-1984	AU 559932 B2	26-03-1987
			AU 1666983 A	16-02-1984
			DE 3366278 D1	23-10-1986
			EP 0101177 A1	22-02-1984
			JP 2106191 C	06-11-1996
			JP 7116451 B	13-12-1995
			JP 59047294 A	16-03-1984
US 4435283	A	06-03-1984	AT 382882 B	27-04-1987
			AT 34183 A	15-09-1986
			AU 560671 B2	16-04-1987
			AU 1007183 A	11-08-1983
			BE 895779 A1	30-05-1983
			BR 8300400 A	25-10-1983
			CA 1196027 A1	29-10-1985
			CH 655513 B	30-04-1986
			DE 3303121 A1	04-08-1983
			DK 37383 A ,B,	02-08-1983
			ES 8406534 A1	01-11-1984
			ES 8506785 A1	16-11-1985
			FI 830346 A ,B,	02-08-1983
			FR 2520749 A1	05-08-1983
			GB 2114150 A ,B	17-08-1983
			GB 2153384 A ,B	21-08-1985
			IL 67669 A	30-09-1986
			IT 1193653 B	21-07-1988
			JP 1013755 B	08-03-1989
			JP 1532803 C	24-11-1989
			JP 58134035 A	10-08-1983
			KR 9005092 B1	19-07-1990
			MX 164962 B	09-10-1992
			NL 8300355 A	01-09-1983
			NO 830323 A ,B,	02-08-1983
			NZ 202947 A	31-07-1985
			PH 19038 A	06-12-1985
			PH 19412 A	10-04-1986
			SE 457727 B	23-01-1989
			SE 8300415 A	02-08-1983

# INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No

PCT/EP2005/001223

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
US 4435283	A	US 4631123 A	23-12-1986
		US 4636298 A	13-01-1987
		US 4666876 A	19-05-1987
		YU 18583 A1	30-04-1986
		ZA 8300550 A	26-10-1983
US 3655551	A	11-04-1972	NONE